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Contra Costa County Grand Jury Report 1005

## **SOUNDING THE ALARM**

A Survey of Fire Detection and Notification Systems in Our Public Schools

**TO: School District Governing Boards  
Contra Costa County Board of Supervisors**

### **SUMMARY**

Fire detection and reporting are critical factors in assuring the safety of the children attending the public schools. In a survey conducted by the Contra Costa County Grand Jury in 2009, approximately 90% of the County public schools responded that they have the required fire alarm systems to assure the safety and protection of school children, staff and property.

The technology for detecting and reporting a fire emergency has made marked strides during the last decade. In response to those developments, changes in state law and local regulations require the installation of more effective fire detection and notification systems in public schools.

### **BACKGROUND**

In the event of a fire at a public school, will the fire department be alerted automatically? The answer depends primarily on the type of fire alarm and notification system installed in the school.

Prompted by the 2008-2009 San Mateo County Grand Jury's report on public school fire alarm systems, the Contra Costa County Grand Jury conducted a survey of fire safety in the County's public schools. The survey made specific inquiries into schools' fire alarm and reporting systems to assess compliance with the law and to protect students, faculty, staff and property.

According to the San Mateo County Grand Jury Report, "San Mateo County Public School Fire Alarm Systems", an untimely response to a student's report of a fire in a classroom at Green Oaks Family Academy in East Palo Alto in 1997 prompted legislative action that eventually led to changes to the fire safety statutes. Although no serious injuries occurred, the fire cost \$3 million to repair the damage to the school. The California legislature passed a law requiring automatic fire alarms, sprinkler systems and

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Contra Costa County 2009-2010 Grand Jury Report No 1005

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Page 1

notification in public schools. The legislation, entitled the Green Oaks Family Academy Elementary School Fire Protection Act (Senate Bill 575, 2001), was enacted on July 1, 2002.

Senate Bill (SB) 575 requires newly constructed schools or modernization projects costing more than \$200,000, to install fire alarm systems which directly connect to an approved supervising station. The previous code required only that a member of the school staff be on campus during normal school hours to call "911" in the event of an emergency.

SB 575 applies to school construction approved by the California Division of Architects (DSA) office after July 1, 2002, however, building and fire codes supporting SB 575 did not become effective until January 1, 2008. This delay in the effective date allowed schools time to bring their fire alarm systems into compliance.

- Schools with construction in excess of \$200,000 approved after January 1, 2008 are required to have automated alarm systems with a direct connection to an approved supervising station.
- School construction approved prior to January 1, 2008 and schools with no new construction are governed by previous sections of the fire code.

Two types of alarm systems are addressed in this report: manual and automatic (as described in Findings # 2 and # 3).

## **METHODOLOGY**

Beginning August 2009, the Contra Costa County Grand Jury utilized various sources, including applicable state statutes, building and fire codes, and local fire regulations. The Grand Jury contacted school personnel, county fire protection officials, and representatives of the California Division of Architects (DSA). The Grand Jury also interviewed representatives of the California Department of Fire regarding the adequacy of school fire alarm systems and schools' compliance with state and local regulations.

The Grand Jury sent an electronic survey regarding fire alarms and other fire safety equipment to the eighteen (18) public school districts in the County, instructing them to forward the survey to all schools in their districts (kindergarten through twelfth grade), for completion.

Based upon the California Department of Education's website, [www.cde.ca.gov](http://www.cde.ca.gov), in 2008-2009, there were 268 public schools in the County. Adjusting this figure for subsequent closures, mergers of schools, and the sharing of buildings, the Grand Jury anticipated responses from 262 schools. The Grand Jury received responses from 236 schools.

**FINDINGS AND RECOMMENDATIONS:**

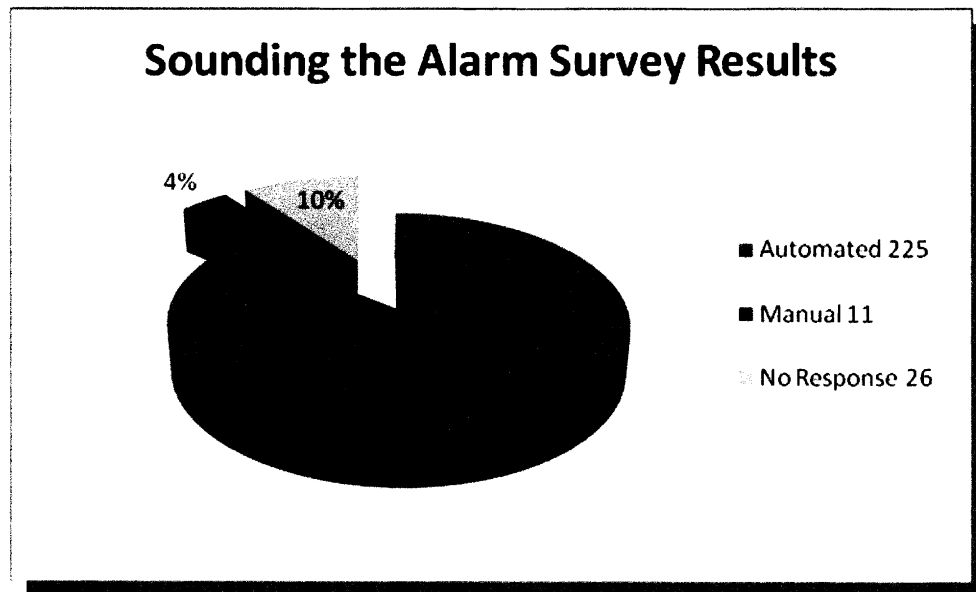
1. Twenty-six (26) of the 262 schools did not respond to the survey. (Appendix I)

**Recommendation:** School District Governing Boards shall review the list of non-responding schools (Appendix I), determine the types of their fire alarm systems and take appropriate action as required by law.

2. Manual Alarm Systems consist of pull stations and smoke detectors that trigger audible alarms on campus. Some manual systems transmit information about the location of the alarm to the school office, while others require school personnel to use phones or intercoms to relay information. A staff member must call “911” to alert authorities to a fire emergency.

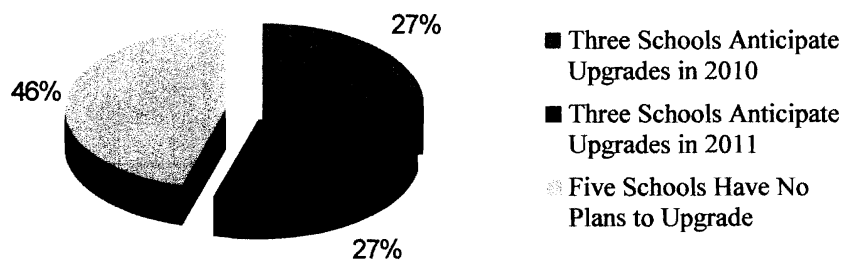
3. Automatic Alarm Systems are fire alarms, sprinklers, and/or smoke detectors that automatically detect a fire and activate a campus-wide alarm. A connection is made electronically to a certified 24-hour supervising station at an offsite private alarm company or to a fire or police department. Some systems provide specific zone details to the offsite station.

4. Of the 236 responding schools, 225 reported having automated systems.



5. Eleven schools reported having manual alarms, (Appendix II)
- Three plan to upgrade their systems in 2010
  - Three plan to upgrade in 2011
  - Five have no plans to upgrade

### Contra Costa Schools With Manual Alarms



**Recommendation:** The eleven schools with manual alarm systems shall review procedures for notifying authorities of a fire emergency. (Appendix II) Any school without a notification procedure shall work with its fire inspectors to implement one. All implemented procedures shall include clear provisions for making a “911” call.

6. Of the eleven schools with manual alarms:
- Three have pull stations, smoke and heat detectors
  - Three have pull stations and smoke detectors
  - One has pull stations and heat detectors
  - Four have only pull stations

**Recommendation:** Schools with manual alarm systems shall confer with their fire inspectors to determine if they comply with existing fire alarm requirements. Schools shall work with the inspectors to comply with fire alarm requirements.

**Recommendation:** With dwindling financial resources available, schools with manual systems shall investigate and apply for available grants and other monetary assistance to help defray the cost of upgrading to a compliant system.

## **CONCLUSIONS:**

The Grand Jury commends those schools responding to the survey (an impressive 90% of those queried) for their diligence and cooperation.

The results of this survey are reassuring and reflect the diligence and commitment of those people entrusted with the mission of providing for the safety of children. With few exceptions, schools comply with current requirements. We strongly suggest schools not in compliance follow the Grand Jury's recommendations.

## **REQUIRED RESPONSES:**

### **Finding #1 and Recommendation:**

School District Governing Boards (Appendix I)  
Acalanes Union High School District  
Antioch Unified School District  
Brentwood Union School District  
Liberty Union High School District  
Mount Diablo Unified School District  
Oakley Union Elementary School District  
Walnut Creek School District  
West Contra Costa Unified School District

### **Findings #5, #6 and Recommendations:**

School District Governing Boards (Appendix II)  
Antioch Unified School District  
Byron Union School District  
Canyon Elementary School District  
John Swett Unified School District  
Pittsburg Unified School District

## **APPENDIX I**

### **Non-Responding Schools**

**Acalanes Union High School District**  
Center For Independent Study

**Antioch Unified School District**  
Antioch Charter Academy  
Antioch Charter Academy II  
Black Diamond Middle School  
Encore Home Schooling

**Brentwood Union School District**  
Brentwood Elementary School

**Liberty Union High School District**  
Heritage High School  
Independence High School  
Liberty High School

**Mount Diablo Unified School District**  
Diablo Community Day School  
Horizons School  
Nueva Vista Summit School  
Pine Hollow Middle School  
Prospect School

**Oakley Union Elementary School District**  
Delta Vista Middle School  
Gehring Elementary School  
Iron Horse elementary School  
Laurel Elementary School  
Oakley Elementary School  
O'Hara Park Middle School  
Vintage Parkway Elementary School

**Walnut Creek School District**  
Indian Valley Elementary School

**West Contra Costa Unified School District**  
Delta High School  
Manzanita Middle School  
Middle College High School

West County Community High School

**APPENDIX II**

**Schools with Manual Alarm Systems**

**Antioch Unified School District**

Antioch High School  
Antioch Middle School  
Belshaw Elementary School  
Kimball Elementary School  
Park Middle School

**Byron Unified School District**

Discovery Bay Elementary School

**Canyon Elementary School District**

Canyon Elementary School

**John Swett Unified School District**

Willows Continuation School

**Pittsburg Unified School District**

Heights Elementary School  
Riverside High School  
Stoneman Elementary School